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PUBLIC HEALTH REPORTS.

UNITED STATES.

Maintenance of quarantine against Cuban ports.

[Department Circular No. 71, 1907. Bureau of Public Health and Marine-Hospital Service.]

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, November 30, 1907.

To national, State, and local quarantine officers, collectors of customs, shipowners and agents, and others concerned:

Owing to the continued prevalence of yellow fever in certain ports of the island of Cuba, the season of close quarantine will be maintained against Cuban ports until further notice.

GEORGE B. CORTELYOU, *Secretary.*

[Reports to the Surgeon-General, Public Health and Marine-Hospital Service.]

DENGUE FEVER, AS OBSERVED IN BROWNSVILLE, TEX, AUGUST, 1907.

[By Passed Assistant Surgeons Joseph Goldberger and George W. McCoy.]

The city of Brownsville lies on the left bank of the Rio Grande, about 10 miles from the mouth. It has a population locally estimated to be about 8,000 (6,305 according to the census of 1900), of which a large portion is Mexican.

The city has no public water supply, in consequence of which river water is hauled in water carts and kept in barrels and tanks, and is in very general use for all purposes except by the well-to-do portion of the population, which obtains its drinking water from the rain water of cisterns. These water receptacles serve, of course, as excellent breeding places for the *Stegomyia calopus* and the *Culex pipiens* mosquitoes, both of which were very much in evidence. Although there is no sewerage, the natural drainage into the river is sufficient to rapidly carry off the storm water, so that we observed no stagnant water in gutters or puddles.

The city is a port of entry, but its domestic shipping is insignificant and its foreign practically nil. One railroad enters it from the north, giving it direct communication with Corpus Christi, Galveston, Houston, San Antonio, and a number of small towns. Directly opposite, on the Mexican side of the river and connected with it by ferry, is Matamoros. Through Matamoros, Brownsville has daily rail communication with Monterey, Mexico.

It seems probable that dengue was introduced into Brownsville from Mexico. The first case of which we have knowledge occurred about June 20, and as this was, in all probability, at least a secondary case, it seems fair to assume that the disease must have been introduced not later than about the middle of June. The disease spread rapidly and became quite generally diffused through the population, so that in two months, or about the middle of August, it was estimated that there had occurred about 1,000 cases. Our notes do not comprise a very large number of cases, but they cover all classes of the population, so that the following description is fairly representative of the disease as it prevailed:

Incubation.—We have only one observation relating to the period of incubation. Three members of a family of 4 were taken sick in a little less than 6 days after their first exposure, so that their incubation period was not more than 6 days.

Onset.—Without any well-defined prodromal symptoms in any of the cases, the disease was ushered in somewhat abruptly, though not with the suddenness which has been described as occurring in some epidemics, with general malaise, headache, and more or less generalized aching. In a few instances a slight chill or chilliness was noted.

Pains.—Pain, in the form of headache with or without rachialgia, lumbar pain, aching of the limbs and eyes, was a constant symptom. More or less severe aching of the eyes was almost always associated with the headache; the latter was usually frontal and present in almost every case. The eye-ache was frequently accentuated by causing the patient to look up or down or to one side. Severe aching in the scapular regions was complained of in many cases. We noted no involvement of the joints in any of the cases observed by us. Some of these pains or aches frequently marked the onset of the disease; slight at first, they rapidly increased in severity, causing restlessness and sleeplessness. The degree of severity of the various aches and pains and the associated restlessness and discomfort oscillated with the oscillations in the fever; thus with a remission in the fever there would be a more or less marked remission in the pains and the patient would feel much better. In most cases the final defervescence of the fever marked the disappearance of all the aching and pains. In a few cases, however, some aching particularly of the eyes and lumbar region persisted for some days into convalescence.

Facies.—In a considerable number of our cases there was for 2 or 3 days after the onset a more or less marked flushing of the face. There was, however, nothing distinctive about this, and it did not merit the name of "the initial rash." The eyes in most instances showed some congestion; in 1 case large subconjunctival hemorrhages occurred in one eye on the third and in the other on the fourth day.

Skin.—The skin was warm and generally moist; in a few cases there was mention of profuse sweating at night. In one instance we noted a profuse critical sweat on the fifth day. In a little more than half of our cases a more or less marked eruption was observed. It is believed that the proportion observed would have been greater had we been able to follow all our cases as closely and as long as is desirable. The eruption appeared some time between the third and the sixth day; that is, (1) during the course of the fever, (2) at the termination of the remission of the third day, or (3) at the termination of the fever. The character of the eruption in most instances was somewhat like that of measles, in some, scarlatiniform, and in a few there was observed mixed with the macules, resembling those in measles, roseola-like patches of various sizes. The rash differed in different cases with respect to the extent of surface involved. In some there were only a few round maculo-papules on the back of the wrists and hands; in others it covered the dorsal surfaces of the forearms, elbows, legs, and dorsal aspects of the feet, while in still others it covered the whole body except the face, palms, and soles. In the last group the eruption was usually quite profuse, leaving but little skin uninvolved. The duration of the eruption varied in our experience from 12 hours to 2 or 3 days. In 2 of our cases there was associated with the eruption considerable pruritus. In most instances the eruption disappeared without any obvious desquamation; in a few there was more or less desquamation, which was flaky in 1 case.

On the second day in one of our cases there appeared on the dorsal aspect of the left forearm a diffuse dull redness of the skin, suggesting a sunburn in appearance. After a few hours it began to fade, while simultaneously a similar redness appeared on the dorsal aspect of the right forearm. After 12 hours all signs of what appeared like a dermatitis had disappeared. The definite eruption appeared in this case on the sixth day with the return of the temperature to normal.

Lymphatic glands.—We noted enlargement of the lymphatic glands of the groins in 3 cases, in 1 of which there was also some enlargement of the right epitrochlear glands. The glands were discrete and neither tender nor painful.

Temperature.—With the onset of the disease the temperature began to rise and continued to rise with or without morning remissions for 2, 3, or 4 days. Having attained its maximum, it at once began to decline, slowly in some instances, rapidly in others, usually reaching normal by the fifth or sixth day. In some instances the defervescence was abrupt, critical, and in one instance associated with a very profuse sweat. In a considerable proportion of cases the morning remission of the third day was particularly marked, amounting almost to an intermission, and endured for from 3 or 4 to 24 hours, after which the temperature again rose, and in one of our cases reached the highest point recorded in that individual's attack. The highest temperature recorded by us was 40.1° C. (104.2° F.). (See charts 1, 2, and 3, page 1760.)

Pulse.—With the rise in the temperature the pulse beat increased in frequency, and in most instances continued to rise and fall in harmony with the rise and fall of the temperature.

In 1 case (chart 3), however, although the temperature rose progressively during the first 2 days, reaching 40.1° C., the pulse remained stationary at 98–99. We met no example of the typical Faget's sign—i. e., a falling pulse rate with a stationary or rising temperature.

Respiratory tract.—One of our patients spoke of a feeling of fullness and tenseness in the nostrils. In 4 cases there was bleeding from the nose; slight in 3, profuse in the fourth. We observed no catarrhal symptoms nor any notable deviation from the normal in the respiratory movements.

Blood.—Examination of blood smears stained by Wright's method showed no structures which we could interpret as parasites of etiological significance. The circumstances under which we were work-

CHART 1.

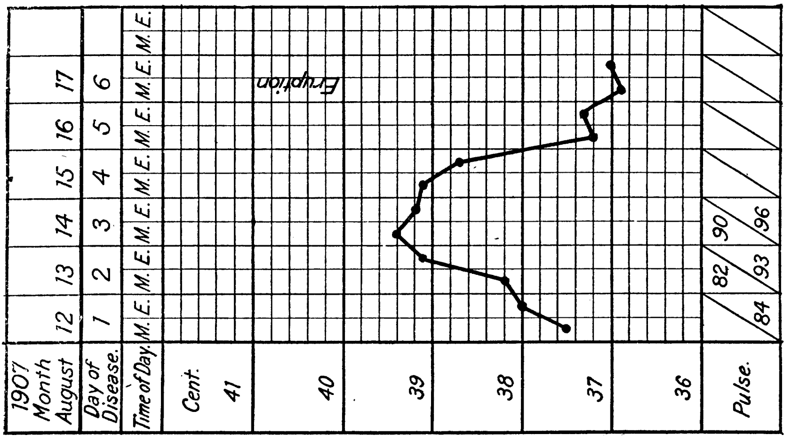


CHART 2.

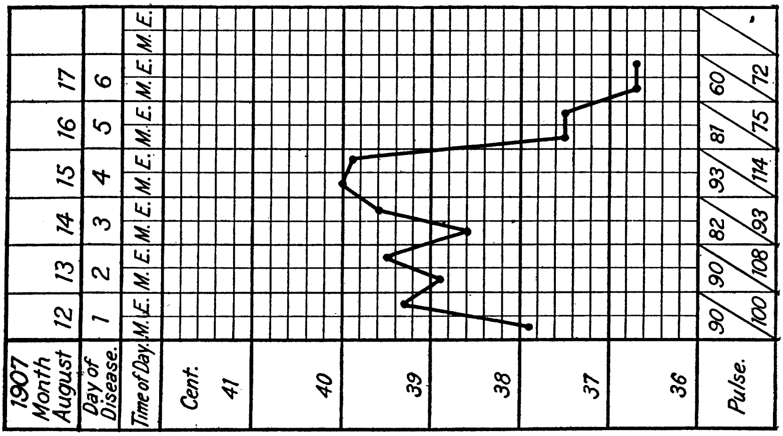
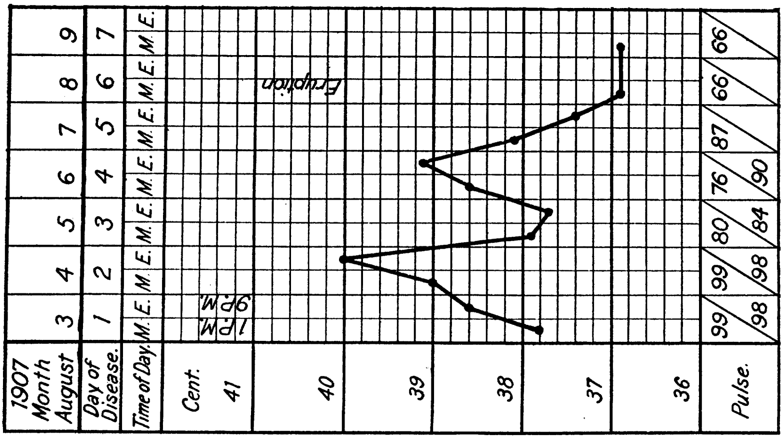


CHART 3.



ing and lack of time did not permit us to make either erythrocyte or leucocyte counts.

Hemorrhages.—Reference has already been made to the occurrence of epistaxis and subconjunctival hemorrhages. In one of our cases the menses of a woman who had always menstruated at regular intervals appeared 5 days before the expected time and were uncommonly profuse.

Digestive tract.—The gums varied somewhat in appearance; usually they were somewhat reddened, and in one instance there was a tendency to bleed on manipulation, but this was normal for the individual in question.

The tongue was commonly moist and more or less coated over the dorsum, not infrequently showing red edges and tip. In a few instances there were some patches of congestion of the mucosa of the soft palate.

The appetite was usually dulled and in some instances altogether lost. In the latter stages of the disease there was developed, in some instances, a desire for food, but an attempt to eat would evoke a feeling of repulsion. Thirst, more or less marked, was almost invariable. In some cases there was nausea and in a few instances vomiting, which in no case was severe. The vomited matter usually consisted of a watery fluid, which was bile-stained in some instances. In 3 cases, all of them children, there was vomiting of a fluid containing some black particles, like coffee grounds; in these cases there had been bleeding from the nose, and this peculiar "black vomit" was interpreted as blood which, having its origin in the posterior nares, was swallowed and became altered by exposure to the gastric juice.

A tendency to constipation, perhaps explained by the enforced inactivity of the patient, was noted in all cases, but the bowels responded readily to the action of cathartics.

Urine.—We examined the urine with heat and nitric acid in 10 of the more severe cases, but found no albumin in any of them. Except in one instance, however, it was not practicable for us to obtain specimens after the fourth day of the disease. In this case, one of cyclical albuminuria, the fever instead of causing an increase in the albumin seemed to affect it favorably, for daily examination throughout the attack failed to reveal the presence of even a trace.

Liver.—Of symptoms referable to this organ, we saw jaundice in one case. This, however, was a mild catarrhal icterus, in the course of which the patient was attacked with dengue.

Nervous system.—Aside from pain, which has already been discussed, we must mention the occurrence of insomnia in several instances, the latter being not uncommonly the result of the former. Following the fever more or less marked adynamia was noted as a rule.

Relation to previous attack.—A number of cases gave histories of a previous attack of dengue.

Relation to previous attack of yellow fever.—At least two of our cases had had yellow fever some years before.

Identity with the dengue of the Philippines.—The disease observed in this epidemic corresponded in general with dengue as observed by one of us in the Philippine Islands. In the Philippines, however, hemorrhages were not observed in any case. Enlargement of the lymphatic glands was rather more common in cases seen in the Philippines than in the Brownsville cases.

Diagnosis.—In the presence of an epidemic this was not difficult. The combination of an acute fever lasting five to six days with pains having the characters mentioned, with a polymorphous eruption (in somewhat more than one-half of the cases) appearing after the third day of the disease in the absence of catarrhal symptoms, jaundice, and albuminuria, clearly marked this fever as dengue. The absence of catarrhal symptoms and the character of the eruption excluded both grippe and measles. Yellow fever, the only disease that demanded serious consideration, we excluded on account of the eruption, which was present in at least 50 per cent of the cases, and the absence of both albuminuria and jaundice in cases in which, on account of the degree and the duration of the fever, these symptoms would certainly have been present had these cases been yellow fever.

Reports from San Francisco, Cal.—Status of plague—Plague-prevention work.

Passed Assistant Surgeon Blue reports:

November 27. Two new cases of plague to-day, 1 a Californian, 1 an Italian. Record to date: Cases, 105; deaths, 64.

November 28. Californian reported yesterday dead. No plague cases to-day. Total bacteriologically confirmed cases to date, 105; total deaths from plague to date, 65.

November 30. One new case of plague to-day, an Italian. Cases of plague to date, 106; total deaths from plague to date, 65.

December 1. Three new cases to-day, 1 Californian, 1 Spaniard, and 1 Italian. Total cases to date, 109; total deaths from plague to date, 65.

Doctor Blue further reports plague-prevention work at San Francisco carried out during the week ended November 21:

Sick inspected	86
Plague cases found	2
Dead inspected	62
Plague, among dead inspected	3
Premises inspected	5,861
Houses disinfected	114
Houses destroyed	5
Nuisances abated	373
Rats found dead	626
Rats trapped	2,608
Bounty rats received	919
Poisons placed	204,096
Rats examined bacteriologically	909
Rats infected with bacillus pestis	6
Contacts inspected	53

Outgoing quarantine transactions.

Passed Assistant Surgeon Hobdy reports, November 19:

Week ended November 16. One hundred and ten vessels were fumigated and certified to, and 53 vessels previously disinfected were certified to.

Our observations during the week show that the number of rats on the vessels is being reduced. In many instances none are found, and on those vessels where they still exist their numbers have been greatly reduced.